

#5

SEQUENCE LISTING

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TAMURA, TOMOHIRO

<120> NOVEL EXPRESSION VECTOR SUITABLE FOR EXPRESSION OF RECOMBINANT
PROTEIN AT LOW TEMPERATURE

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<160> 131

<170> PatentIn Ver. 3.3

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shn1

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 caccaggatg atccccgac 19
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19

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 agactagtcc tcaacgacag gagcacgac 30

 <210> 31
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 T7

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sHN153

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aatccacagg acgggtgtgg

20

<210> 33

<211> 19

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19

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<211> 22

<212> DNA

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22

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sHN155

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acgacgtct cccttatgcg

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<210> 36

<211> 19

<212> DNA

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sHN156

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19

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 gcctcct 67

<210> 38
 <211> 77
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 NNco1

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 tagatctcga ggtgaa 77

<210> 39
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 NNco2

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 tgatggtgat ggtggcc 77

<210> 40
 <211> 71
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 ccatcactga a 71

<210> 41
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CNco2

<400> 41

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cgtagaattc c 71

<210> 42

<211> 29

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<210> 43

<211> 80

<212> DNA

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NNdel

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gcttagatct cgaggatgaa 80

<210> 44

<211> 82

<212> DNA

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NNde2

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tgatggtgat ggtgatggcc ca 82

<210> 45

<211> 71

<212> DNA

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CNdel

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tatgggaatt ctacgtagcg gccgcggatc caagcttaga tctcgaggac atcaccatca 60
ccatcactga a 71

<210> 46
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 cgtagaattc cca 73

<210> 47
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 sHN160

<400> 47
 aacatatgta tatctccttc ttaaagttaa ac 32

<210> 48
 <211> 22
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<400> 48
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<210> 49
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 sHN98

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 aactcgagat cccataagtg ctttcatctt 30

<210> 50
 <211> 27
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 sHN82

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tactcatgat gcatcaccat caccatc

27

<210> 51
<211> 20
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pTrc99A Cseq

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cagaccgctt ctgcgttctg

20

<210> 52
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sHN272

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atccatggcc cctatactag gttattg

27

<210> 53
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sHN271

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33

<210> 54
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sHN150

<400> 54
catgggaatt cagatctctc gaga

24

<210> 55
<211> 24
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sHN212

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agcttctcga gagatctgaa ttcc

24

<210> 56

<211> 22

<212> DNA

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pBAD(Forward)

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ctatgccata gcatttttat cc

22

<210> 57

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<212> DNA

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sHN166

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<211> 29

<212> DNA

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sHN167

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29

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<212> DNA

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sHN168

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gcctcgagg gtttttttca tttgttcacg

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sHN169

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sHN170

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cacatatgct ccgccagatc ctccg

25

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sHN171

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sHN172

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sHN177

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cccatatggc cgggcagtca gacaag

26

<210> 65
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 sHN178

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30

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 sHN179

<400> 66
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29

<210> 67
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 sHN290

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 sHN262

<400> 68
 atgaattcat ggcaaccatc taactg

26

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 sHN261

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 ttctcgagaa caagagctct gaagatatcc g 31

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 SHN295

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<210> 71
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 SHN266

<400> 71
 ctaagctttt aatgtttgtg gaaagtgc 28

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 SHN265

<400> 72
 gtctcgaggt ccctgacaaa acggtcaaat g 31

<210> 73
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 SHN288

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sHN268

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ttgaattcca gacaatgagc tggaggg

27

<210> 75

<211> 29

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sHN267

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29

<210> 76

<211> 31

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sHN243

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31

<210> 77

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sHN244

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<210> 78

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sHN245

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 SHN247

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 SHN248

<400> 81
 aactcgagag tcattttcag ccatagtttc tcttatcc 38

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 SHN275

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<210> 83
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 SHN307

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 <210> 85
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 sHN278

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 aagaattcac cgagtttact tacagaaccc 30

 <210> 86
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 sHN279R

 <400> 86
 aaccatgggc aaaggagatc ctaagaag 28

 <210> 87
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 sHN280

 <400> 87
 ttgaattcct gcgctagaac caacttattc atc 33

 <210> 88
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sHN314

<400> 88
aactcgaggg caaaggagat cctaagaag

29

<210> 89
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sHN283

<400> 89
gacatggct cctgagcaat gggaag

26

<210> 90
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sHN284

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ataagctttt aagggtcctc atccacgtga a

31

<210> 91
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sHN164

<400> 91
aacatatgga cgggtccggg gagcag

26

<210> 92
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sHN194

<400> 92
aagaattctc agcccatctt cttccagatg

30

<210> 93
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 sHN193

<400> 93
 aactcgagat ggacgggtcc ggggagca

28

<210> 94
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 sHN305

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 ctcatatggc tgtggatact acaagg

26

<210> 95
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 sHN306

<400> 95
 atctcgagga tttcactggc ccagcatgc

29

<210> 96
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 sHN296

<400> 96
 aactcgagcg tcggtatcct tttgcgctg

30

<210> 97
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<220>
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 sHN330

<400> 97
 acccatgggc gacggtgctg gaaattg

27

<210> 98
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 sHN259

<400> 98
 aactcgagat gaagcttgta aatggcagaa ag

32

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 sHN260

<400> 99
 aagaattcct ctactgtgta tcggtcat

28

<210> 100
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 sHN269

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30

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 gaggtacctt tcagtttagc ttgtcgaaat ac

32

<210> 102
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<223> Description of Artificial Sequence: Synthetic primer
sHN263

<400> 102

gcctcgagct tcctgagaag accatacgat g

31

<210> 103

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sHN264

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30

<210> 104

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<223> Description of Artificial Sequence: Synthetic primer
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<223> Description of Artificial Sequence: Synthetic primer
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<223> Description of Artificial Sequence: Synthetic vector
pTip NH1

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic vector
pTip NH2

<400> 107

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic vector
pTip LCH1

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<223> Description of Artificial Sequence: Synthetic vector
pTip LCH2

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<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
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His His His His His His

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<210> 115

<211> 422

<212> DNA

<213> Artificial Sequence

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<221> CDS

<222> (151)..(222)

<220>

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cggctcacgg cgtggcacgc ggaacgtccg ggcttgacc tcacgtcacg tgaggaggca 120

gcgtggacgg cgtcagagaa gggagcggcc atg ggc cac cat cac cat cac cat 174

Met Gly His His His His His His

1

5

atg gga att cta cgt agc ggc cgc gga tcc aag ctt aga tct cga gga 222

Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Arg Gly

10

15

20

tgaactagtc gacccaccgg caccctgag cccctcgctg cgggtgccgg tgcgagggac 282
 tgcaacacgc gaaacctgca caaacacacg gaggttggaa tgagcgccac ggacacaccc 342
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 cgctcagcg ggactctagt 422

<210> 116
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 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 116
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 1 5 10 15
 Gly Ser Lys Leu Arg Ser Arg Gly
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<210> 117
 <211> 416
 <212> DNA
 <213> Artificial Sequence

<220>
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 <222> (151)..(216)

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 gcgtggacgg cgtcagagaa gggagcggcc atg gga att cta cgt agc ggc cgc 174
 Met Gly Ile Leu Arg Ser Gly Arg
 1 5
 gga tcc aag ctt aga tct cga gga cat cac cat cac cat cac 216
 Gly Ser Lys Leu Arg Ser Arg Gly His His His His His His
 10 15 20

tgaactagtc gacccaccgg caccctgag cccctcgctg cgggtgccgg tgcgagggac 276
 tgcaacacgc gaaacctgca caaacacacg gaggttggaa tgagcgccac ggacacaccc 336
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cgcctcagcg ggactctagt

416

<210> 118

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
coded protein sequence

<400> 118

Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Arg Gly
1 5 10 15

His His His His His
20

<210> 119

<211> 425

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<222> (151)..(225)

<220>

<223> Description of Artificial Sequence: Synthetic
nucleotide sequence

<400> 119

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cggctcacgg cgtggcacgc ggaacgtccg ggcttgacc tcacgtcacg tgaggaggca 120

gcgtggacgg cgtcagagaa gggagcgc atg ggc cat cac cat cac cat cac 174
Met Gly His His His His His His
1 5

gcc atg gga att cta cgt agc ggc cgc gga tcc aag cct aga tct cga 222
Ala Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Pro Arg Ser Arg
10 15 20

gga tgaactagtc gaccacgcg caccctgag cccctcgtg cgggtgccgg 275
Gly
25

tgcgagggac tgcaacacgc gaaacctgca caaacacacg gaggttgga tgagcgccac 335

ggacacaccc gatacggcg cgttccacc ccggttggtg accaccgctg gggcggctga 395

cctgctacgc cgcctcagcg ggactctagt 425

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 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 coded protein sequence

<400> 120
 Met Gly His His His His His His Ala Met Gly Ile Leu Arg Ser Gly
 1 5 10 15
 Arg Gly Ser Lys Pro Arg Ser Arg Gly
 20 25

<210> 121
 <211> 416
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> CDS
 <222> (151)..(216)

<220>
 <223> Description of Artificial Sequence: Synthetic
 nucleotide sequence

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 cggctcacgg cgtggcacgc ggaacgtccg ggcttgacc tcacgtcacg tgaggaggca 120
 gcgtggacgg cgtcagagaa gggagcgcat atg gga att cta cgt agc ggc cgc 174
 Met Gly Ile Leu Arg Ser Gly Arg
 1 5
 gga tcc aag ctt aga tct cga gga cat cac cat cac cat cac 216
 Gly Ser Lys Leu Arg Ser Arg Gly His His His His His His
 10 15 20
 tgaactagtc gaccacacgg caccctgag ccctcgctg cgggtgccgg tgcgaggggac 276
 tgcaacacgc gaaacctgca caaacacacg gaggttgaa tgagcgccac ggacacaccc 336
 gataccggcg ccgttcacc ccggttggtg accaccgctg gggcggctga cctgctacgc 396
 cgcctcagcg ggactctagt 416

<210> 122
 <211> 22
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
coded protein sequence

<400> 122

Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Arg Gly
1 5 10 15His His His His His His
20

<210> 123

<211> 81

<212> DNA

<213> Artificial Sequence

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<221> CDS

<222> (3)..(68)

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<223> Description of Artificial Sequence: Synthetic
nucleotide sequence

<400> 123

cc atg gga att cta cgt agc ggc cgc gga tcc aag ctt aga tct ctc 47
Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Leu
1 5 10 15gag cat cac cat cac cat cac tgaactagtc gac 81
Glu His His His His His His
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<210> 124

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
coded protein sequence

<400> 124

Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Leu Glu
1 5 10 15His His His His His His
20

<210> 125
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 <212> DNA
 <213> Artificial Sequence

<220>
 <221> CDS
 <222> (4)..(69)

<220>
 <223> Description of Artificial Sequence: Synthetic
 nucleotide sequence

<400> 125
 cat atg gga att cta cgt agc ggc cgc gga tcc aag ctt aga tct ctc 48
 Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Leu
 1 5 10 15
 gag cat cac cat cac cat cac tgaactagtc gac 82
 Glu His His His His His His
 20

<210> 126
 <211> 22
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 coded protein sequence

<400> 126
 Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Leu Glu
 1 5 10 15
 His His His His His His
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<210> 127
 <211> 124
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 nucleotide sequence

<400> 127
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 gggcttgac ctcacgtcac gtgaggaggc agcgtggacg gcgtcagaga agggagcggc 120
 catg 124

<210> 128
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 128
gtcagagaag ggagcggcca tg

22

<210> 129
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

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45

<210> 130
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 130
gtctagaaat aattttggtt aactttaaga aggagatata cc

42

<210> 131
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 131
gtctagaaat aattttggtt aactttaaga aggagatata cat

43